## SEQUENCE LISTING

<110> YAN, Chunhua et al. <120> ISOLATED HUMAN KINASE PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES THEREOF <130> CL001098DIV II <160> 10 <170> FastSEQ for Windows Version 4.0 <210> 1 <211> 2203 <212> DNA <213> Homo sapiens <400> 1 gtgagtcata tgaaagctcc acgctgctga cctctggcaa aaagggagag aacaaggata 60 ggagaggcag tgggggaaag gttcaagtgc gggttttctc cttgaaccta gaagattatg 120 ggtcaagagc tgtgtgcaaa gactgtacag cctggatgca gctgctacca ttgttcagag 180 ggaggcgagg cacacagctg teggaggagt cageetgaga ecaeggagge tgegtteaag 240 ctaacagacc taaaagaagc atcatgttcc atgacttcat ttcaccccag gggacttcaa 300 gctgcccgtg cccagaagtt caagagtaaa aggccacgga gtaacagtga ttgttttcag 360 gaagaggatc tgaggcaggg ttttcagtgg aggaagagcc tcccttttgg ggcagcctca 420 tettaettga aettggagaa getgggtgaa ggetettatg egacagttta caaggggatt 480 agcagaataa atggacaact agtggcttta aaagtcatca gcatgaatgc agaggaagga 540 gtcccattta cagctatccg agaagcttct ctcctgaagg gtttgaaaca tgccaatatt 600 gtgctcctgc atgacataat ccacaccaaa gagacactga cattcgtttt tgaatacatg 660 cacacagacc tggcccagta tatgtctcag catccaggag ggcttcatcc tcataatqtc 720 agacttttca tgtttcaact tttgcggggc ctggcqtaca tccaccacca acacgttctt 780 cacagggacc tgaaacctca gaacttactc atcagtcacc tgggagagct caaactggct 840 gattttggtc ttgcccgggc caagtccatt cccagccaga catactcttc agaagtcgtg 900 accetetggt accggeecee tgatgetttg etgggageca etgaatatte etetgagetg 960 gacatatggg gtgcaggctg catctttatt gaaatgttcc agggtcaacc tttgtttcct 1020 ggggtttcca acatccttga acagctggag aaaatctggg aggtgctggg agtccctaca 1080 gaggatactt ggccgggagt ctccaagcta cctaactaca atccaggtaa tattgatctg 1140 agcttttgaa tactctgaga attagtaatg taaggagagc attggccacg ctaacagggc 1200 gttcttgtat tgtgaactca gcggcaaaga tgggtgtaga ggaatttcta cattcatata 1260 ttccctgact aatctttgta tgaggaagac actgaaagag tagctgaggt tagaccagtt 1320 ccccagctct gtaaaacaca agtagcaagc tgaatagaat ttgaaatgac tattactqtq 1380 gattccacat ccattgtcaa atacccaatg gctcaaaaga acaactcaaa agatgggctc 1440 acttttgggc cccctgactg tcataagtgt attgattagt attgaattgc atatgtataa 1500 aaagaaagct aatgcaacag aacagaggta gaggctcgct aggcctagga catgccaagt 1560 aagctgtctg taggttatac ttactaagag ttcattcatt gcctgtaaac ctgacacttg 1620 gtcattgtct ctcacacatt tcatctttca agactggctt ctgggatcga tttagaagtg 1680 ctggaagtgt tatccatggg ggaattcttt gagaagctgt cgcagggcca catcagaggg 1740 atcagattaa gcagtagtca cttcaaggat gttgagacag aggggaggag acaggcactg 1800 aactacagga tgaaggatca tattagaagc tgaagaagca aataaagccc atgccaaagc 1860 tgagctctca ctggcagggt tgaaggggag gtagaaaggt acagataacg acaagattag 1920 ggtggatatg ctccaagcca gatttttcta gtctttatgg tcttacattg ttccattact 1980 aaaaatgaaa tetteecaaa tigtigteet taetiittit tittittit gagatggagt 2040 tttgctctta tcgcccaggc tggagtgcag tgagccgaga ttgcgccact gcatgtccgc 2100 agtccgacct gggcgacaga gcgagactcc gtctcaaaac taaaaaaaaa aaaaaaaaa 2160 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 2203

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Pro Glu Thr Thr Glu Ala Ala Phe Lys Leu Thr Asp Leu Lys Glu Ala
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                                                45
Ser Cys Ser Met Thr Ser Phe His Pro Arg Gly Leu: Gln Ala Ala Arg
Ala Gln Lys Phe Lys Ser Lys Arg Pro Arg Ser Asn Ser Asp Cys Phe
                    70
                                        75
Gln Glu Glu Asp Leu Arg Gln Gly Phe Gln Trp Arg Lys Ser Leu Pro
                                    90
Phe Gly Ala Ala Ser Ser Tyr Leu Asn Leu Glu Lys Leu Gly Glu Gly
            100
                                105
Ser Tyr Ala Thr Val Tyr Lys Gly Ile Ser Arg Ile Asn Gly Gln Leu
                            120
                                                125
Val Ala Leu Lys Val Ile Ser Met Asn Ala Glu Glu Gly Val Pro Phe
                        135
Thr Ala Ile Arg Glu Ala Ser Leu Leu Lys Gly Leu Lys His Ala Asn
                    150
                                        155
Ile Val Leu Leu His Asp Ile Ile His Thr Lys Glu Thr Leu Thr Phe
                                    170
Val Phe Glu Tyr Met His Thr Asp Leu Ala Gln Tyr Met Ser Gln His
            180
                                185
                                                     190
Pro Gly Gly Leu His Pro His Asn Val Arg Leu Phe Met Phe Gln Leu
                            200
                                                205
Leu Arg Gly Leu Ala Tyr Ile His His Gln His Val Leu His Arg Asp
                        215
                                            220
Leu Lys Pro Gln Asn Leu Leu Ile Ser His Leu Gly Glu Leu Lys Leu
                    230
                                        235
Ala Asp Phe Gly Leu Ala Arg Ala Lys Ser Ile Pro Ser Gln Thr Tyr
                                    250
Ser Ser Glu Val Val Thr Leu Trp Tyr Arg Pro Pro Asp Ala Leu Leu
                                265
                                                     270
Gly Ala Thr Glu Tyr Ser Ser Glu Leu Asp Ile Trp Gly Ala Gly Cys
                            280
Ile Phe Ile Glu Met Phe Gln Gly Gln Pro Leu Phe Pro Gly Val Ser
                        295
                                            300
Asn Ile Leu Glu Gln Leu Glu Lys Ile Trp Glu Val Leu Gly Val Pro
                    310
                                        315
Thr Glu Asp Thr Trp Pro Gly Val Ser Lys Leu Pro Asn Tyr Asn Pro
```

330

325

```
Glu Trp Phe Pro Leu Pro Thr Pro Arg Ser Leu His Val Val Trp Asn
                                345
Arg Leu Gly Arg Val Pro Glu Ala Glu Asp Leu Ala Ser Gln Met Leu
                            360
                                                365
Lys Gly Phe Pro Arg Asp Arg Val Ser Ala Gln Glu Ala Leu Val His
                        375
                                            380
Asp Tyr Phe Ser Ala Leu Pro Ser Gln Leu Tyr Gln Leu Pro Asp Glu
                    390
                                        395
Glu Ser Leu Phe Thr Val Ser Gly Val Arg Leu Lys Pro Glu Met Cys
                                    410
Asp Leu Leu Ala Ser Tyr Gln Lys Gly His His Pro Ala Gln Phe Ser
Lys Cys Trp
       435
```

<210> 6 <211> 240 <212> PRT <213> Mus musculus

70 75 Val Phe Glu Tyr Val His Thr Asp Leu Cys Gln Tyr Met Glu Gln His 90 Pro Gly Gly Leu His Pro Asp Asn Val Lys Leu Phe Leu Phe Gln Leu 100 105 Leu Arg Gly Leu Ser Tyr Ile His Gln Arg Tyr Ile Leu His Arg Asp 120 125 Leu Lys Pro Gln Asn Leu Leu Ile Ser Asp Thr Gly Glu Leu Lys Leu 135 140 Ala Asp Phe Gly Leu Ala Arg Ala Lys Ser Val Pro Ser His Thr Tyr 150 155

Ser Asn Glu Val Val Thr Leu Trp Tyr Arg Pro Pro Asp Val Leu Leu 165 170 175
Gly Ser Thr Glu Tyr Ser Thr Cys Leu Asp Met Trp Gly Val Gly Cys

180 185 190

Ile Phe Val Glu Met Ile Gln Gly Val Ala Ala Phe Pro Gly Met Lys

195 200 205

Asp Ile Gln Asp Gln Leu Glu Arg Ile Phe Leu Val Leu Gly Thr Pro
210 215 220

Asn Glu Asp Thr Trp Pro Gly Val His Ser Leu Pro His Phe Lys Pro

Asn Glu Asp Thr Trp Pro Gly Val His Ser Leu Pro His Phe Lys Pro 225 230 235 240

<210> 7
<211> 245
<212> PRT

## <213> Homo sapiens

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<400> 7
Phe Gly Lys Ala Asp Ser Tyr Glu Lys Leu Glu Lys Leu Gly Glu Gly
Ser Tyr Ala Thr Val Tyr Lys Gly Lys Ser Lys Val Asn Gly Lys Leu
                                25
Val Ala Leu Lys Val Ile Arg Leu Gln Glu Glu Glu Gly Thr Pro Phe
                            40
Thr Ala Ile Arg Glu Ala Ser Leu Leu Lys Gly Leu Lys His Ala Asn
                        55
Ile Val Leu Leu His Asp Ile Ile His Thr Lys Glu Thr Leu Thr Leu
                    70
                                        75
Val Phe Glu Tyr Val His Thr Asp Leu Cys Gln Tyr Met Asp Lys His
                85
                                    90
Pro Gly Gly Leu His Pro Asp Asn Val Lys Leu Phe Leu Phe Gln Leu
                                105
Leu Arg Gly Leu Ser Tyr Ile His Gln Arg Tyr Ile Leu His Arg Asp
                            120
Leu Lys Pro Gln Asn Leu Leu Ile Ser Asp Thr Gly Glu Leu Lys Leu
                        135
                                            140
Ala Asp Phe Gly Leu Ala Arg Ala Lys Ser Val Pro Ser His Thr Tyr
                                 ٠.
                    150
                                        155
Ser Asn Glu Val Val Thr Leu Trp Tyr Arg Pro Pro Asp Val Leu Leu
                165
                                    170
Gly Ser Thr Glu Tyr Ser Thr Cys Leu Asp Met Trp Gly Val Gly Cys
           180
                                185
                                                    190
Ile Phe Val Glu Met Ile Gln Gly Val Ala Ala Phe Pro Gly Met Lys
                            200
Asp Ile Gln Asp Gln Leu Glu Arg Ile Phe Leu Val Leu Gly Thr Pro
                        215
                                            220
Asn Glu Asp Thr Trp Pro Gly Val His Ser Leu Pro His Phe Lys Pro
Glu Arg Phe Thr Leu
                245
```

<210> 8 <211> 330 <212> PRT <213> Mus musculus

<400> 8

 Phe Gly Lys
 Ala Asp
 Ser Tyr
 Glu Lys
 Leu Glu Lys
 Leu Gly Glu Gly
 Gly Is
 Leu Gly Is
 Gly Is
 Leu Gly Is
 G

```
Leu Arg Gly Leu Ser Tyr Ile His Gln Arg Tyr Ile Leu His Arg Asp
                            120
Leu Lys Pro Gln Asn Leu Leu Ile Ser Asp Thr Gly Glu Leu Lys Leu
                        135
                                            140
Ala Asp Phe Gly Leu Ala Arg Ala Lys Ser Val Pro Ser His Thr Tyr
                                        155
Ser Asn Glu Val Val Thr Leu Trp Tyr Arg Pro Pro Asp Val Leu Leu
                                    170
Gly Ser Thr Glu Tyr Ser Thr Cys Leu Asp Met Trp Gly Val Gly Cys
                                185
Ile Phe Val Glu Met Ile Gln Gly Val Ala Ala Phe Pro Gly Met Lys
                            200
Asp Ile Gln Asp Gln Leu Glu Arg Ile Phe Leu Val Leu Gly Thr Pro
                        215
                                            220
Asn Glu Asp Thr Trp Pro Gly Val His Ser Leu Pro His Phe Lys Pro
                    230
                                        235
Glu Arg Phe Thr Val Tyr Ser Ser Lys Ser Leu Arg Gln Ala Trp Asn
                245
                                    250
Lys Leu Ser Tyr Val Asn His Ala Glu Asp Leu Ala Ser Lys Leu Leu
                                265
Gln Cys Ser Pro Lys Asn Arg Leu Ser Ala Gln Ala Ala Leu Ser His
     · 275
                            280
                                                285
Glu Tyr Phe Ser Asp Leu Pro Pro Arg Leu Trp Glu Leu Thr Asp Met
                        295
                                           300
Ser Ser Ile Phe Thr Val Pro Asn Val Arg Leu Gln Pro Glu Ala Gly
                    310
                                        315
Glu Ser Met Arg Ala Phe Gly Lys Asn Asn
                325
```

<210> 9 <211> 330 <212> PRT <213> Homo sapiens

<400> 9

Phe Gly Lys Ala Asp Ser Tyr Glu Lys Leu Glu Lys Leu Gly Glu Gly Ser Tyr Ala Thr Val Tyr Lys Gly Lys Ser Lys Val Asn Gly Lys Leu Val Ala Leu Lys Val Ile Arg Leu Gln Glu Glu Glu Gly Thr Pro Phe . Thr Ala Ile Arg Glu Ala Ser Leu Leu Lys Gly Leu Lys His Ala Asn 55 60 Ile Val Leu Leu His Asp Ile Ile His Thr Lys Glu Thr Leu Thr Leu 75 Val Phe Glu Tyr Val His Thr Asp Leu Cys Gln Tyr Met Asp Lys His 90 Pro Gly Gly Leu His Pro Asp Asn Val Lys Leu Phe Leu Phe Gln Leu 105 Leu Arg Gly Leu Ser Tyr Ile His Gln Arg Tyr Ile Leu His Arg Asp 120 Leu Lys Pro Gln Asn Leu Leu Ile Ser Asp Thr Gly Glu Leu Lys Leu 135 140 Ala Asp Phe Gly Leu Ala Arg Ala Lys Ser Val Pro Ser His Thr Tyr 150 155 Ser Asn Glu Val Val Thr Leu Trp Tyr Arg Pro Pro Asp Val Leu Leu

```
170
                165
Gly Ser Thr Glu Tyr Ser Thr Cys Leu Asp Met Trp Gly Val Gly Cys
                                185
Ile Phe Val Glu Met Ile Gln Gly Val Ala Ala Phe Pro Gly Met Lys
                            200
Asp Ile Gln Asp Gln Leu Glu Arg Ile Phe Leu Val Leu Gly Thr Pro
                        215
                                            220
Asn Glu Asp Thr Trp Pro Gly Val His Ser Leu Pro His Phe Lys Pro
                    230
                                        235
Glu Arg Phe Thr Leu Tyr Ser Ser Lys Asn Leu Arg Gln Ala Trp Asn
                245
                                    250
Lys Leu Ser Tyr Val Asn His Ala Glu Asp Leu Ala Ser Lys Leu Leu
                                265
Gln Cys Ser Pro Lys Asn Arg Leu Ser Ala Gln Ala Ala Leu Ser His
                            280
       275
Glu Tyr Phe Ser Asp Leu Pro Pro Arg Leu Trp Glu Leu Thr Asp Met
                        295
                                            300
Ser Ser Ile Phe Thr Val Pro Asn Val Arg Leu Gln Pro Glu Ala Gly
                    310
                                        315
Glu Ser Met Arg Ala Phe Gly Lys Asn Asn
                325
                                    330
<210> 10
<211> 330
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<212> PRT

<213> Mus musculus

<400> 10

Phe Gly Lys Ala Asp Ser Tyr Glu Lys Leu Glu Lys Leu Gly Glu Gly Ser Tyr Ala Thr Val Tyr Lys Gly Lys Ser Lys Val Asn Gly Lys Leu Val Ala Leu Lys Val Ile Arg Leu Gln Glu Glu Glu Gly Thr Pro Phe 40 Thr Ala Ile Arg Glu Ala Ser Leu Leu Lys Gly Leu Lys His Ala Asn 55 Ile Val Leu Leu His Asp Ile Ile His Thr Lys Glu Thr Leu Thr Leu 70 75 Val Phe Glu Tyr Val His Thr Asp Leu Cys Gln Tyr Met Asp Lys His 90 Pro Gly Gly Leu His Pro Asp Asn Val Lys Leu Phe Leu Phe Gln Leu 100 105 Leu Arg Gly Leu Ser Tyr Ile His Gln Arg Tyr Ile Leu His Arg Asp 120 Leu Lys Pro Gln Asn Leu Leu Ile Ser Asp Thr Gly Glu Leu Lys Leu 135 140 Ala Asp Phe Gly Leu Ala Arg Ala Lys Ser Val Pro Ser His Thr Tyr 155 Ser Asn Glu Val Val Thr Leu Trp Tyr Arg Pro Pro Asp Val Leu Leu 165 170 Gly Ser Thr Glu Tyr Ser Thr Cys Leu Asp Met Trp Gly Val Gly Cys 185 Ile Phe Val Glu Met Ile Gln Gly Val Ala Ala Phe Pro Gly Met Lys 200 205 Asp Ile Gln Asp Gln Leu Glu Arg Ile Phe Leu Val Leu Gly Thr Pro 215 220

```
Asn Glu Asp Thr Trp Pro Gly Val His Ser Leu Pro His Phe Lys Pro
                   230
                                       235
Glu Arg Phe Thr Val Tyr Asn Ser Lys Ser Leu Arg Gln Ala Trp Asn
               245
                                   250
Lys Leu Ser Tyr Val Asn His Ala Glu Asp Leu Ala Ser Lys Leu Leu
           260
                               265
                                                   270
Gln Cys Ser Pro Lys Asn Arg Leu Ser Ala Gln Ala Ala Leu Ser His
       275
                           280
                                               285
Glu Tyr Phe Ser Asp Leu Pro Pro Arg Leu Trp Glu Leu Thr Asp Met
                      295
                                           300
Ser Ser Ile Phe Thr Val Pro Asn Val Arg Leu Gln Pro Glu Ala Gly
                   310
                                   315
Glu Ser Met Arg Ala Phe Gly Lys Asn Asn
               325
```